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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,582	09/25/2003	Clifton Harold Bromley	03SW169 / ALBRP314US	7480
7590 Susan M. Donahue Rockwell Automation, 704-P, IP Department 1201 South 2nd Street Milwaukee, WI 53204			EXAMINER KENNEDY, ADRIAN L	
			ART UNIT 2129	PAPER NUMBER
			MAIL DATE 02/16/2010	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/670,582

Applicant(s)

BROMLEY ET AL.

Examiner

ADRIAN L. KENNEDY

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 September 2009 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/GS/US)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-17 are drawn to a device analyzer, a human machine interface, a communication component and a processing component that renders, classified in class 706, subclass 60.
 - II. Claims 18-23 are drawn to a device analyzer, an identification component, an artificial intelligence component, a communications component, and a processing component classified in class 706, subclass 60.
 - III. Claims 24-28 and 41-44 are drawn to converting 3 dimensional data into 2 dimensional data or vice versa and displaying the data in disparate views, classified in class 706, subclass 60.
 - IV. Claims 29-32 are drawn to a software object that determines properties, limitations or software plug-ins, a human machine interface generator, and a communications component, classified in class 706, subclass 60.
 - V. Claims 33-34 are drawn to determining formatting requirements, formatting data, delivering the formatted data, classified in class 706, subclass 60.
 - VI. Claim 35 are drawn to receiving data from a physical device to a human machine interface, comparing format of the data to known formats, rendering data, classified in class 706, subclass 60.
 - VII. Claims 36 and 45 are drawn to mapping data path information, determining I/O communications protocol of the physical device, formatting data in accordance

with the device properties, creating one or more software objects, classified in class 706, subclass 60.

- VIII. Claim 37 are drawn to determining properties, limitations, or software plug-ins of the devices, means for delivering the formatted data, classified in class 706, subclass 60.
- IX. Claim 38 are drawn to ascertaining formatting requirements, properties, limitations or software plug-ins, determining whether a format of data is known, determining the format of unknown data received by a Human Machine Interface, rendering the data in the HMI, mapping data path information to data delivered to the physical device, classified in class 706, subclass 60.
- X. Claim 39 and 46-48 are drawn to mapping data path information to data delivered to the device, generating at least one software object, formatting data in accordance with determined properties, creating software objects that represents Input/Output interface of devices, classified in class 706, subclass 60.
- XI. Claim 40 are drawn to determining properties, limitations, or software plug-ins associated with devices, presenting 3-dimensional data as 2-dimensional data or vice versa, displaying data in a plurality of disparate views, associating respective views with a zoom level, classified in class 706, subclass 60.

The inventions are independent or distinct, each from the other because of the following reasons:

2. Inventions I - XI are distinct. In the instant case, the related inventions in the same statutory class are considered not overlapping in scope. See MPEP § 806.05.
3. Applicant is advised that if any claim presented in a continuation of application is anticipated by, or includes all the limitation of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.
4. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:
 - a. the inventions have acquired a separate status in the art in view of their different classification;
 - b. the invention have acquired a separate status in the art due to their recognized divergent subject matter;
 - c. the invention require different field of search (for example, search different classes/subclasses or electronic resources, or employing different search queries);
 - d. the prior art applicable to one invention would not likely be applicable to another invention;
 - e. the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

5. **Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined** even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected invention.**

6. The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144.

7. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

8. Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Response to Arguments

Applicant's arguments filed on December 15, 2009 have been fully considered but are found to be partial persuasive in that a new restriction has been provided in the instant application. Also, a response to the applicant's arguments appear below:

In reference to Applicant's argument:

Applicant's representative respectfully requests withdrawal of the restriction requirement under 35 U.S.C. §121 for at least the following reasons. The restriction requirement is improper under M.P.E.P. §803.

Examiner's response:

The examiner has respectfully considered the applicant's arguments, however the applicant is respectfully reminded that regardless of whether applicant agrees with the examiner's restriction requirement or not, an election must be made. Section 808.01 of the MPEP states the following:

When a requirement for restriction between either independent or distinct species is made, **applicant must elect** a single disclosed species even if applicant disagrees with the examiner's restriction requirement. [Emphasis Added]

In reference to Applicant's argument:

The claims as presented do not meet either prong of the test to require a restriction.

Examiner's response:

The examiner has respectfully considered the applicant's arguments, and has found that the claims have met both prongs of the test for a restriction requirement.

Regarding the first prong which requires that each invention is either independent or distinct from the other(s). M.P.E.P. §808. The examiner asserts that while all the claim groups cited above are related, the applicant has claimed several combinations and subcombinations. The examiner has found that there are several combinations (groups I, II, V, VI, VIII and IX) which claim "rendering data", and several subcombinations (groups III and XI; groups IV, VII and X) which teach "displaying data" and "recognizing software objects" respectively. The examiner has found that all of the combination and subcombinations are patentable over the other. Specifically, the combinations do not require the particulars of the subcombinations and the subcombinations have utility by themselves or in another materially different combination. M.P.E.P §806.05(c). Additionally, the examiner takes the position that the multiple combinations and subcombinations which are driven towards related claimed subject matter (e.g. "rendering data", "displaying data" and "recognizing software objects") are each non-obvious and novel over each other.

Regarding the second prong which requires that there be a serious burden on the examiner if the restriction is not required. M.P.E.P. §808. The examiner asserts that while all of the claim groups above are in the same classification, each groups would require the searching of different classes in addition to the above cited classification and would require a different fields of search. For example, each of the distinct groups contain concepts and language that I would not have had to search when searching the other claim groups. As a result, the examiner takes the position that that a serious burden would be place on myself due to having to perform 11 different prior art searches due to the differing fields of search.

Below is example of search terms which the examiner would use for each claim group

along with an indication of the claimed element found in the claim group that was not claimed in any other claim group which makes the claim group patentably distinct (i.e. non-obvious and novel) over the other claim groups. The examiner has arranged the groups by either combination or subcombination so it is easier for the applicant to see why the combinations are distinct from the other combination/subcombination and why the subcombinations are distinct from the other subcombinations/combinations. (The search query directed towards the patentably distinct claiming will be underlined below.)

Combinations which recite “rendering data in an industrial automation environment” in the claim.

1. Group II – “device properties”, “device limitations”, “machine interface”, “human interface”, “data mapping”, “data path mapping”, “data rendering”, “render multidimensional objects” and “rendering based-on device limitations”.
2. Group II – “device properties”, “device limitations”, “known data format identification”, “unknown data format learning”, “artificial intelligence”, “machine interface”, “human interface”, “data mapping”, “data path mapping”, “data rendering”, “render multidimensional objects” and “rendering based-on device limitations”.
3. Group V – “device properties”, “device limitations”, “multi-level hierarchical attributes”, “device based formatting”, “machine interface”, “human interface”, “data mapping” and “data path mapping”.
4. Group VI – “physical device properties”, “device limitations”, “comparing known data formats”, “unknown data format learning”, “machine interface”, “human

interface”, “data mapping”, “data path mapping”, “data rendering”, “generating multidimensional objects”, “rendering formatted data” and “rendering based-on device limitations”.

5. Group IX – “physical device properties”, “device limitations”, “comparing known data formats”, “data format learning”, “machine interface”, “human interface”, “data rendering”, “rendering formatted data”, “rendering based-on device limitations”, “data mapping” and “data path mapping” (The examiner asserts that while Group VI and IX are similar group IX does not generate multidimensional objects which the examiner asserts is the patentably distinct feature.).

Subcombinations which recite “displaying data based at least in part on a zoom level” in the claim.

6. Group III – “device properties”, “device limitations”, “convert 3D to 2D”, “device based dimensional object conversion”, “multiple data views”, “display error” and “display zoom levels”.
7. Group XI – “device properties”, “device limitations”, “convert 3D to 2D”, “device based dimensional object conversion”, “multiple data views”, “display zoom levels” and “zooming software object representations”.

Subcombinations which recite “recognizing or creating a software object representing a physical device” in the claim.

8. Group IV – “device properties based software object generation”, “device limitations based software object generation”, “rendering formatted data”, “data mapping” and “data path mapping”.

9. Group VII – “data mapping”, “data path mapping”, “I/O protocol determination”, “communications protocol determination”, “device based data formatting”, “creating software objects”, “machine interface” and “human interface”.
10. Group VII – “data mapping”, “data path mapping”, “I/O protocol determination”, “communications protocol determination”, “device based data formatting”, “creating software objects”, “machine interface”, “human interface” and “displaying software objects based on a device”.

Conclusion

Examiner's Opinion:

The examiner has considered the applicant's arguments in light of the claimed invention. Furthermore, the examiner respectfully reminds the applicant that “**during examination, the claims must be interpreted as broadly as their terms reasonably allow**”. (MPEP 2111.01 [R-5] I)

- The examiner respectfully requests that should the applicant submit further correspondence, that the applicant contact the examiner prior to said submittal. This contact should be made to schedule a telephonic or in person interview with the examiner, applicant's representative and if necessary the applicant.

Should the applicant choose to amend, the Examiner respectfully suggests that the

applicant more explicitly recite what the applicant considers to be the most novel portion of the disclosed invention in the claimed invention. (The previously cited suggestions are not a recitation of allowable subject matter, but are rather subject matter disclosed/claimed by the applicant which will help further distinguish the claimed invention from the prior art. Furthermore, any amendment will require further searching of the prior art.).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adrian L. Kennedy whose telephone number is (571) 270-1505. The examiner can normally be reached on Mon -Fri 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/ALK/

/Donald Sparks/

Supervisory Patent Examiner,
Art Unit 2129

